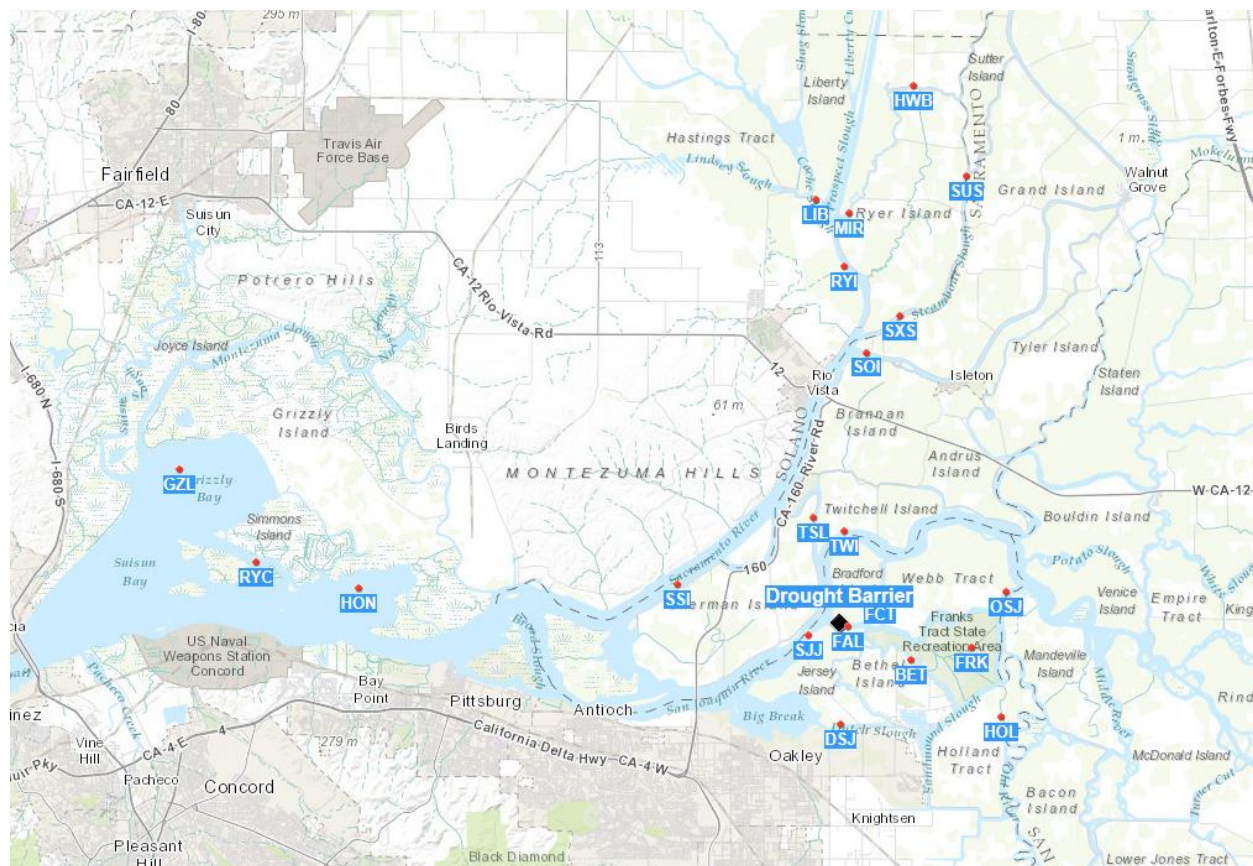


Emergency Drought Barrier Water Quality Monitoring Summary¹

Weekly Update for August 24 through August 30, 2015

Below is a summary of water quality, flow, and velocity data since the hydraulic closure of the Emergency Drought Barrier (EDB) at West False River on May 28, 2015, with emphasis on trends observed during the past week. The EDB rock placement was completed on June 12, 2015. For additional water quality monitoring data, access the network of CDEC stations at the following link:

<http://dwr.maps.arcgis.com/apps/Viewer/index.html?appid=3be5e0bbe0994b76883b0567f4f6b9e3>

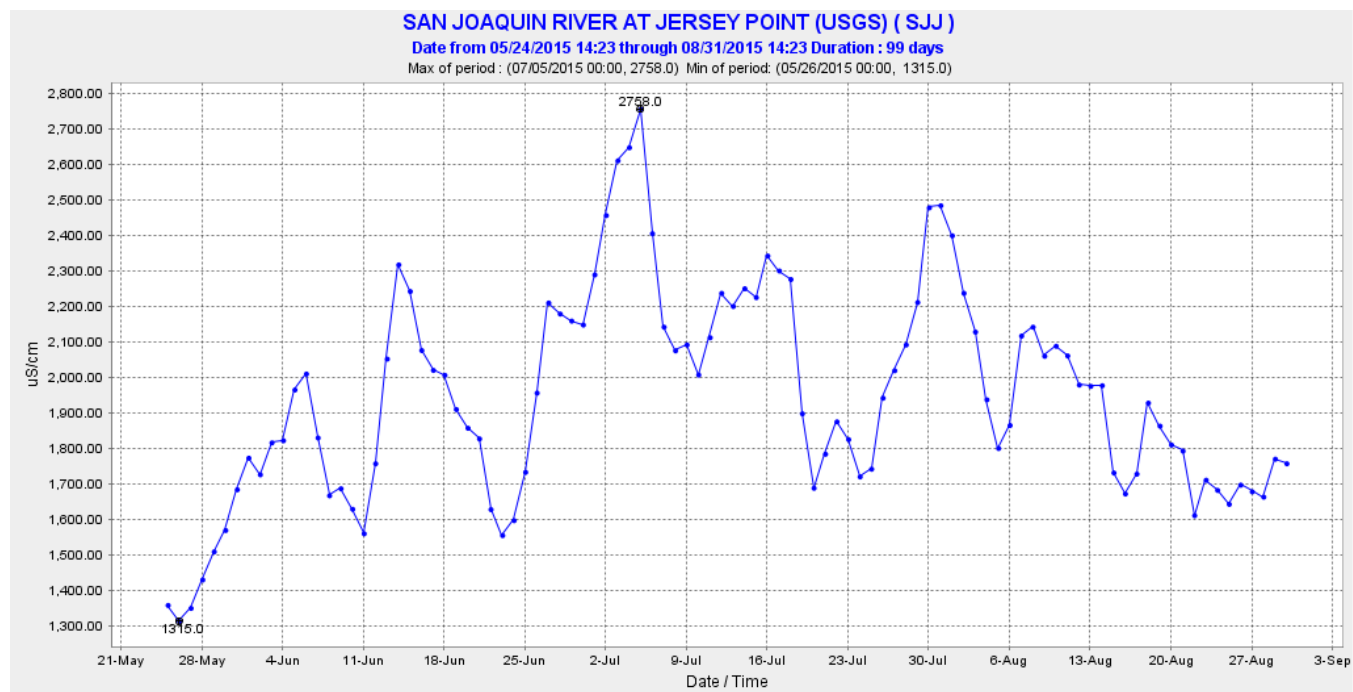
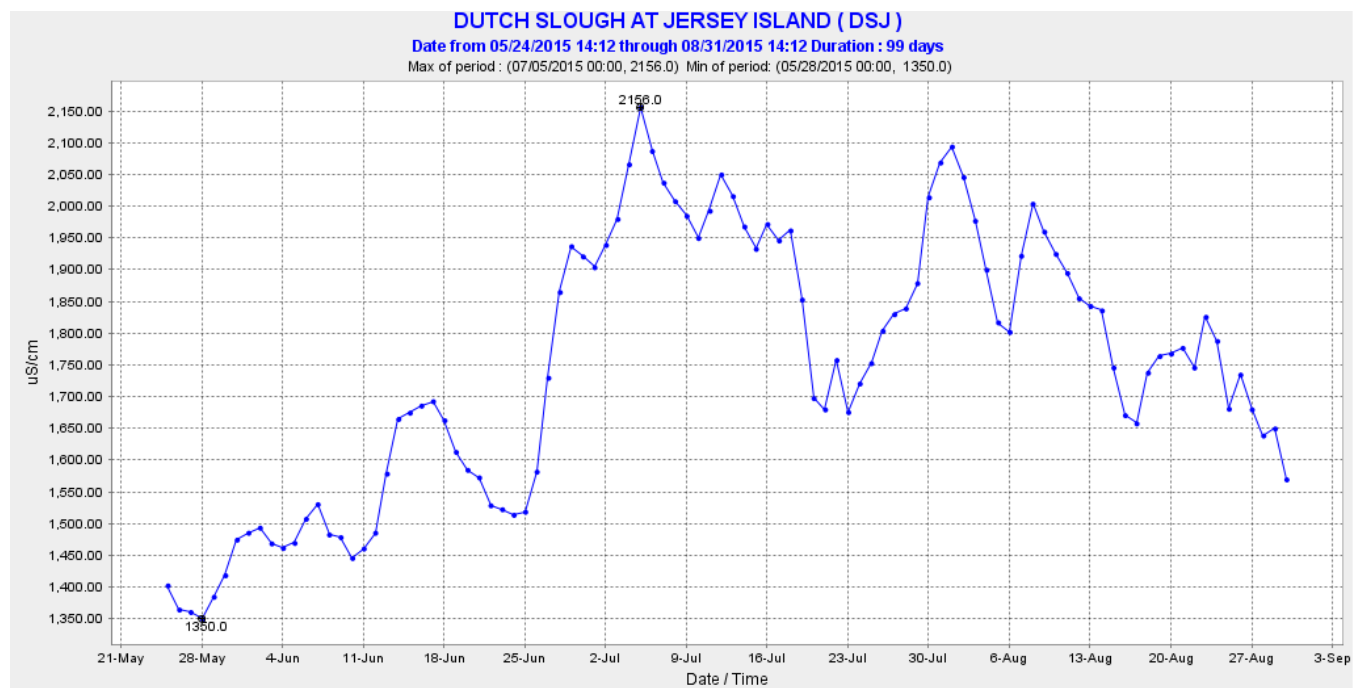


Specific Conductivity

During the past week, average daily specific conductivity (EC) levels trended down at Dutch Slough at Jersey Island (DSL) and at False River (FAL), but were relatively steady at San Joaquin River at Jersey Point (SJJ) and Fisherman's Cut (FCT), while levels rose slightly at Holland Cut (HOL). EC magnitudes are within the range experienced over the past 3 months since the barrier was closed at DSL, FAL, SJJ, and FCT. However, at HOL average daily EC have trended more consistently downward during the past three months. Average daily EC at HOL was 725 $\mu\text{S}/\text{cm}$ at the end of the week.

¹ All data in this report and subsequent weekly reports posted to California Data Exchange Network (CDEC) are preliminary and have not yet been validated.

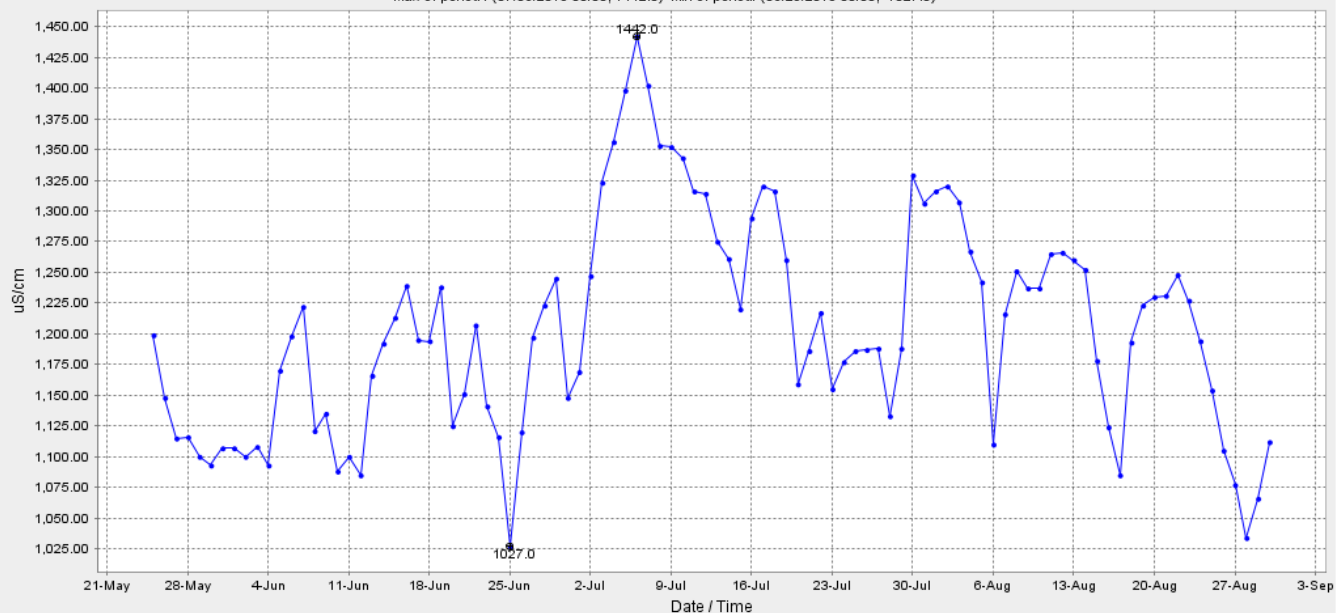
Daily average EC values for five stations in the vicinity of the EDB:



FALSE RIVER (FAL)

Date from 05/24/2015 14:14 through 08/31/2015 14:14 Duration : 99 days

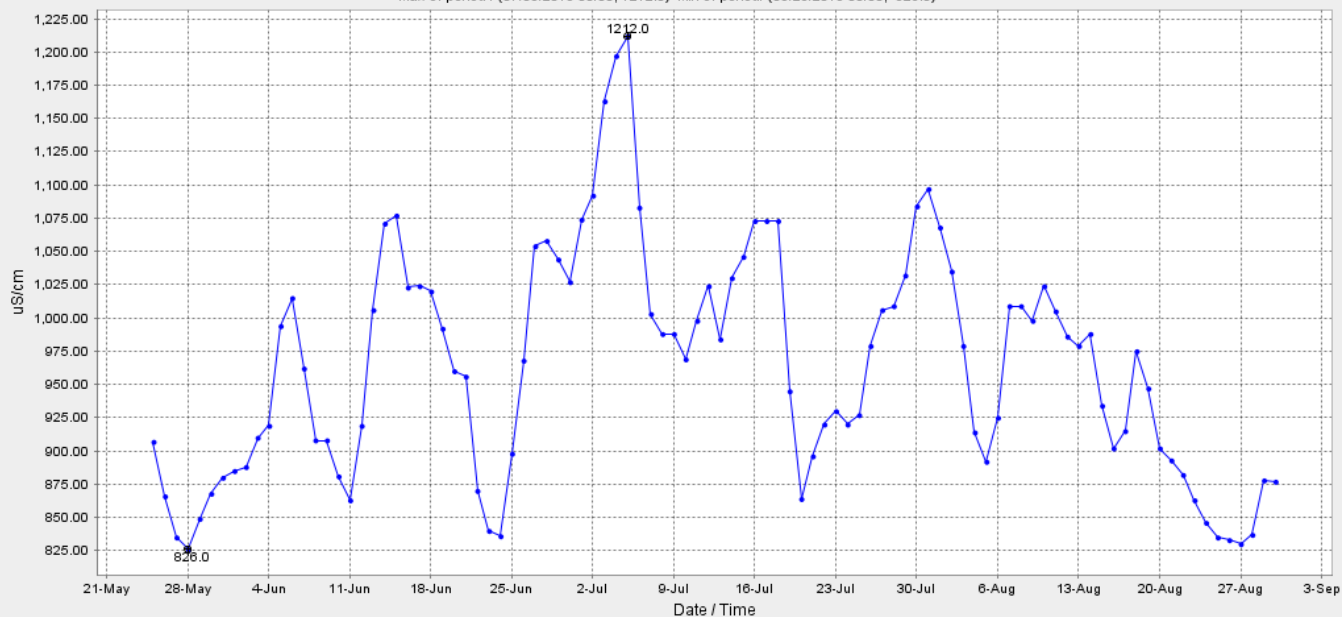
Max of period : (07/06/2015 00:00, 1442.0) Min of period: (06/25/2015 00:00, 1027.0)

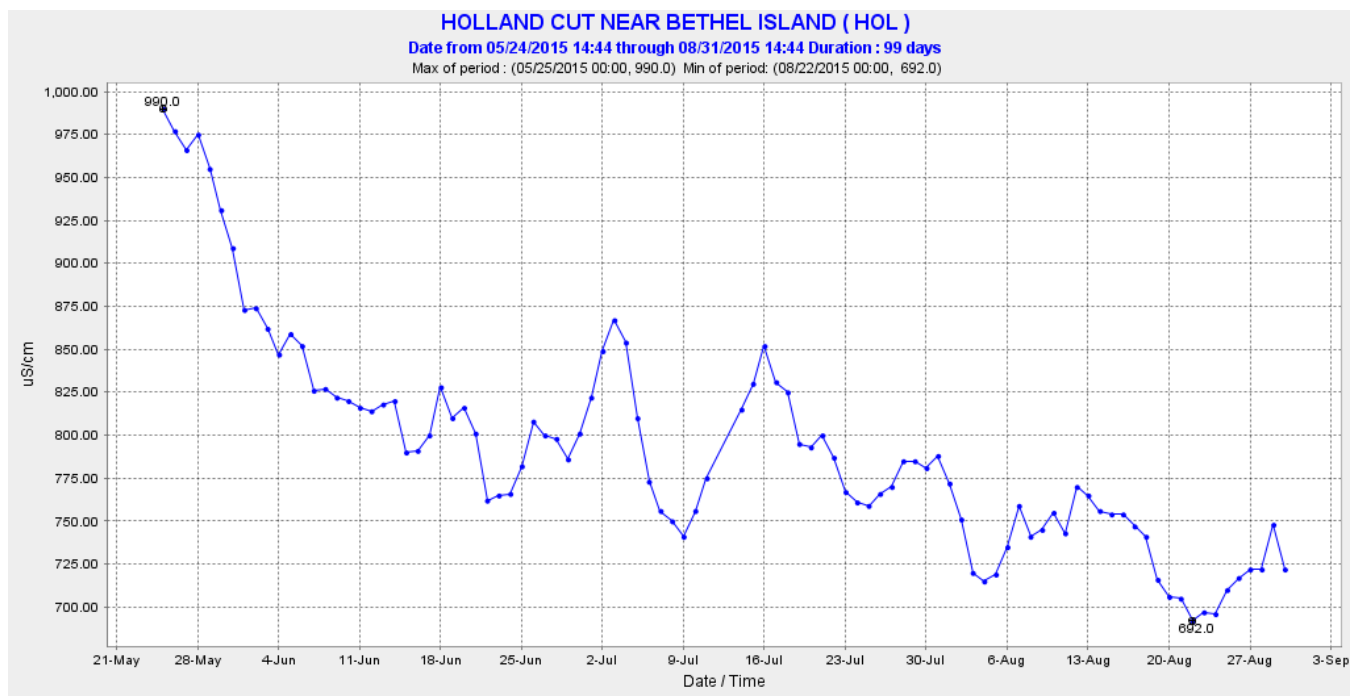


FISHERMANS CUT (FCT)

Date from 05/24/2015 14:42 through 08/31/2015 14:42 Duration : 99 days

Max of period : (07/05/2015 00:00, 1212.0) Min of period: (05/28/2015 00:00, 826.0)

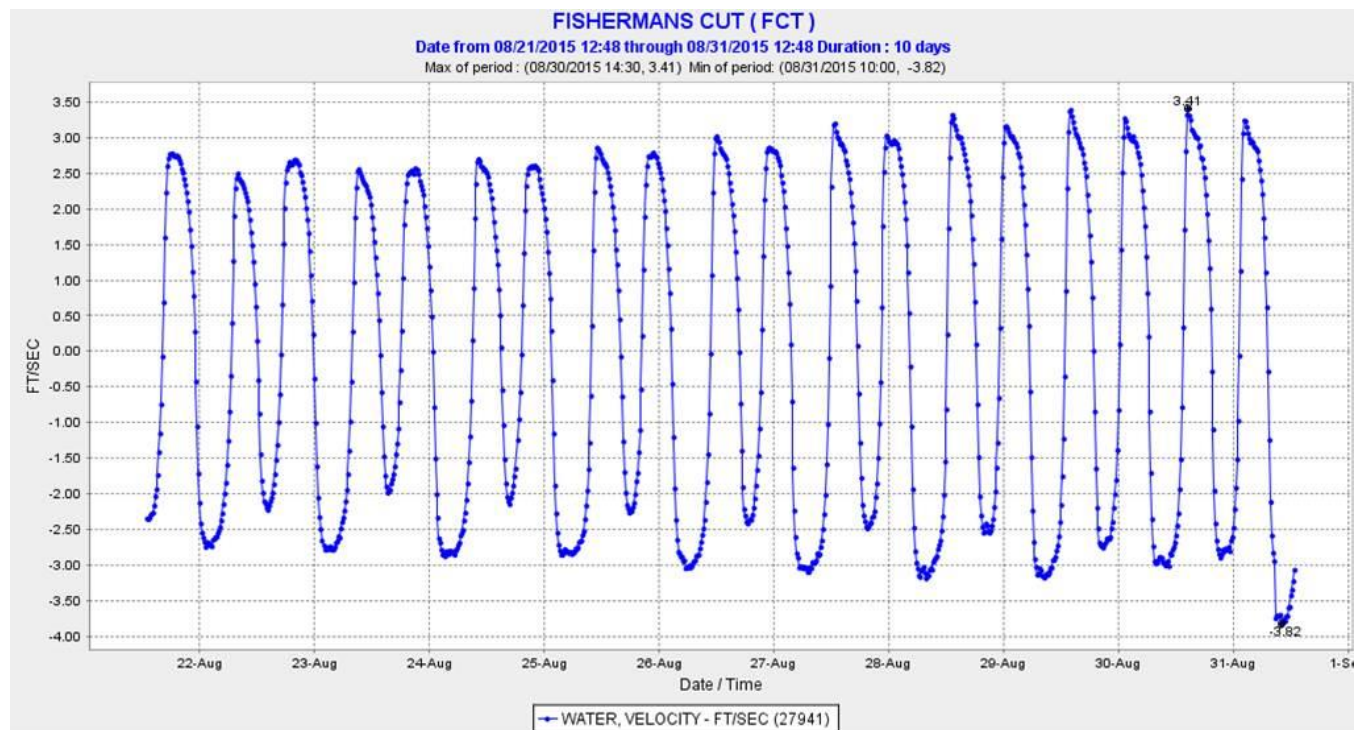




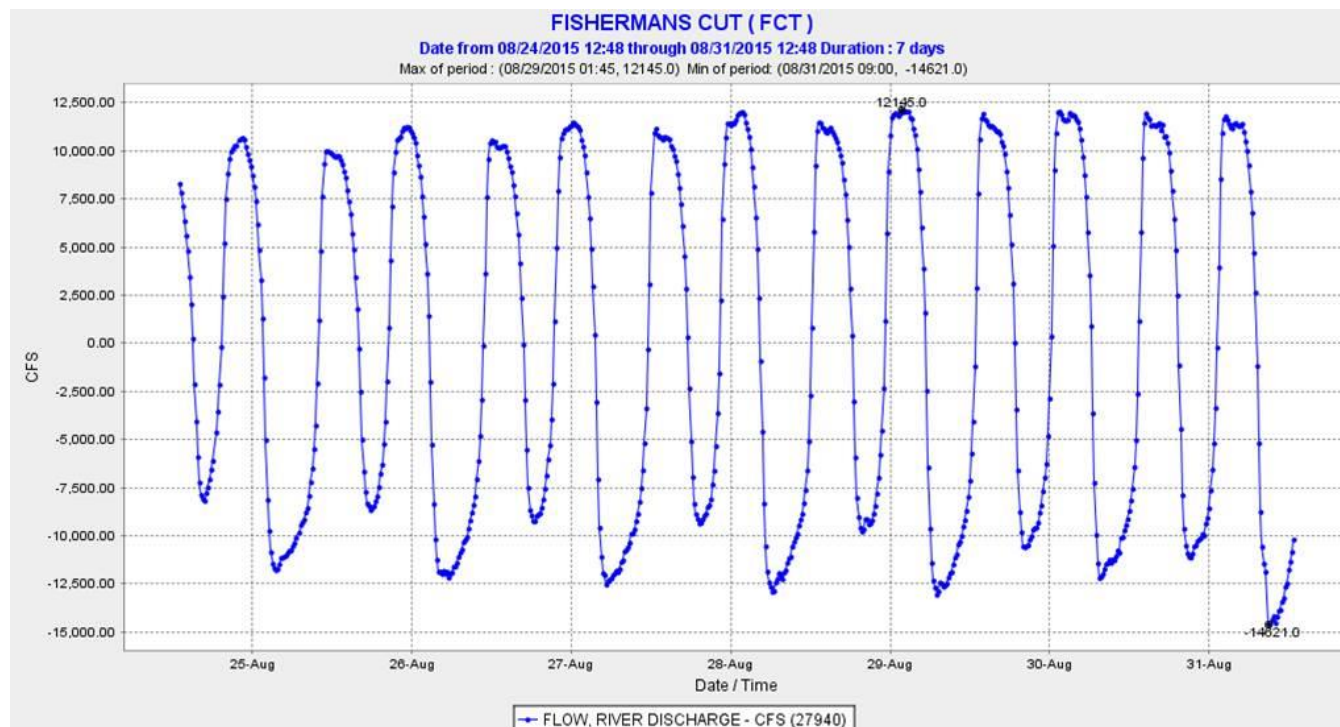
Flow and Velocity

Fisherman's Cut experienced a spring tide during the week of August 24 through August 30. Peak water velocities at the FCT flow station varied between +3.41 ft/s (8/30/15 at 14:30) and – 3.82 ft/s (8/31/15 at 10:00). While the barrier is in place, positive water velocities measured at this station refer to water flowing into Fisherman's Cut southward from the San Joaquin River. Thus, last week's peak water velocity of -3.82 ft/s occurred during an ebb tide. Flows varied between +12,145 cfs (8/29/15 at 01:45) and –14,621 cfs (8/31/15 at 09:00) indicating a higher peak flow during a flood tide. Our vertical beam filtering algorithm which had been causing problems with the calculation of flows and velocities has been temporarily disabled until we finish testing new data logger code to replace the older algorithm. In the meantime, water hyacinth has not been much of a problem blocking the ADCP's vertical beam over the last week. As such, last week's real-time data for FCT is fairly true and will require little quality control (QC) work. As a reminder, QC'd Fisherman's Cut flow and velocity data can be obtained from the Water Data Library (WDL) using the station code B95050Q. Note that the WDL data is usually not up-to-date as the system gets updated every Thursday. Below are the velocity and flow plots for the last week of data.

15-Minute velocities for FCT in the vicinity of the emergency drought barrier:



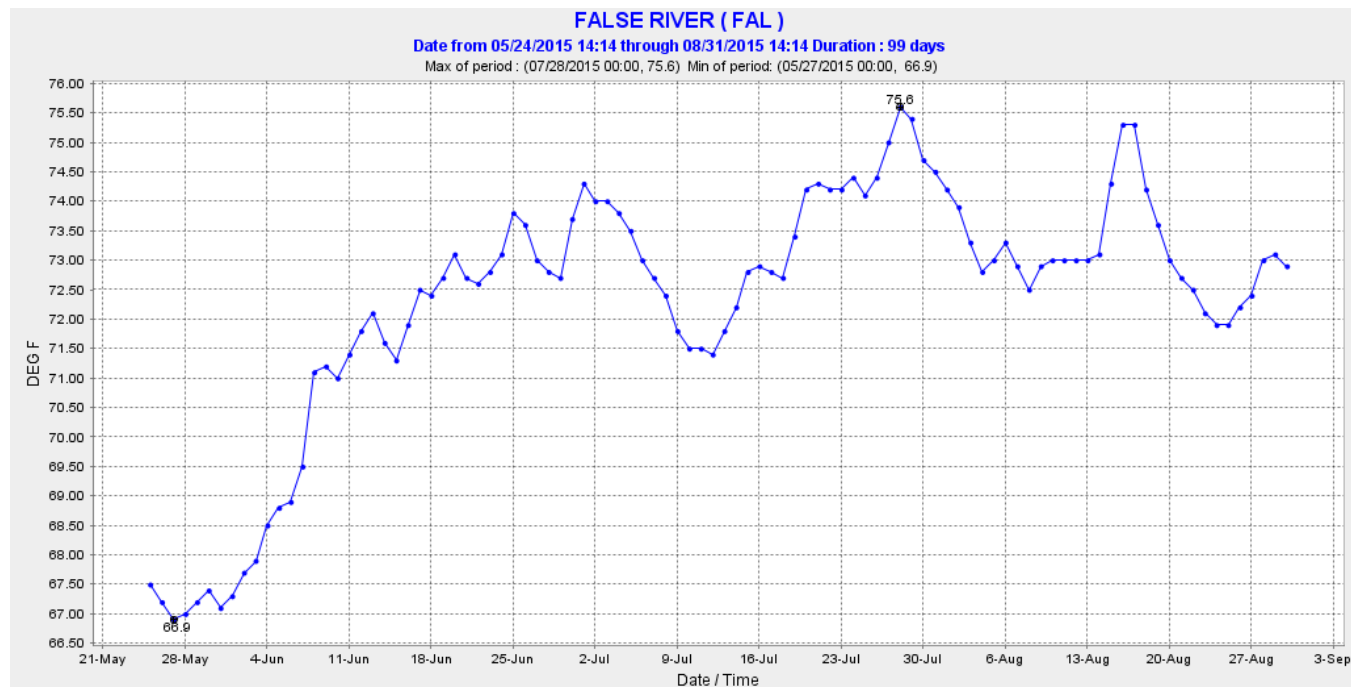
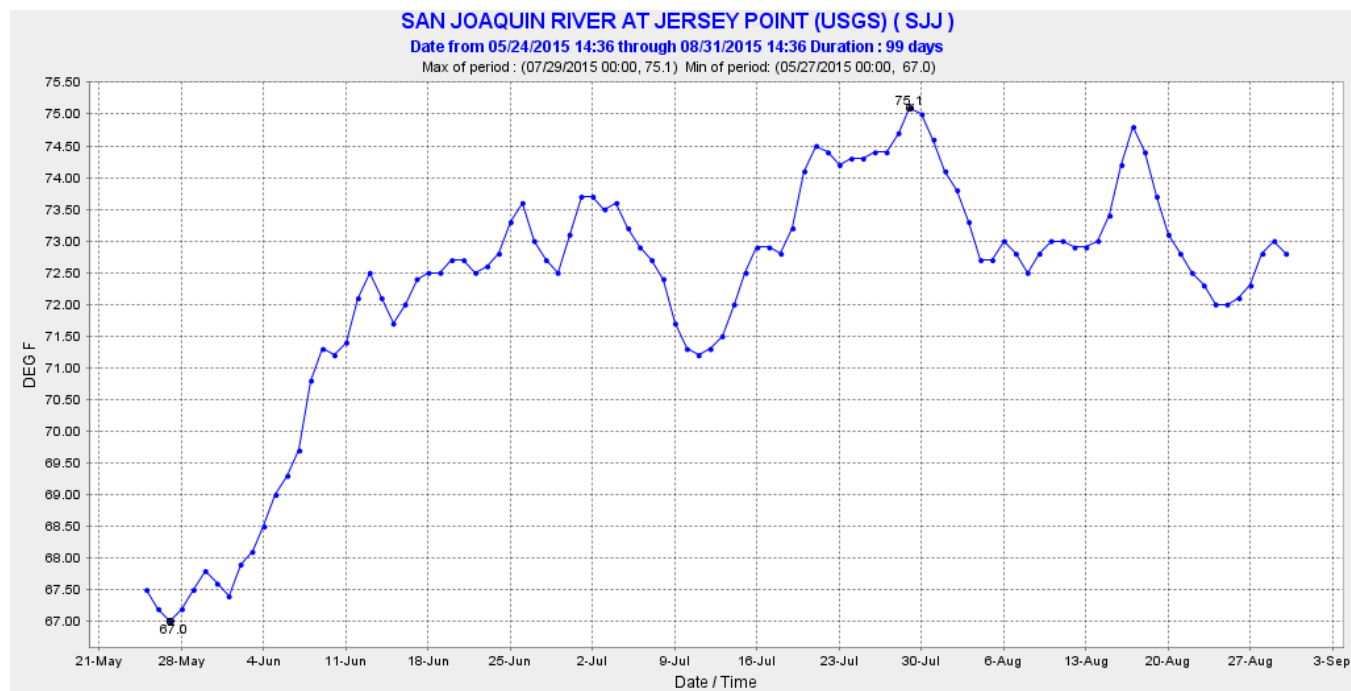
15-Minute flows for FCT in the vicinity of the emergency drought barrier:



Water Temperatures

During the past week water temperatures rose about 1 °F at SJJ and at FAL to about 73°F.

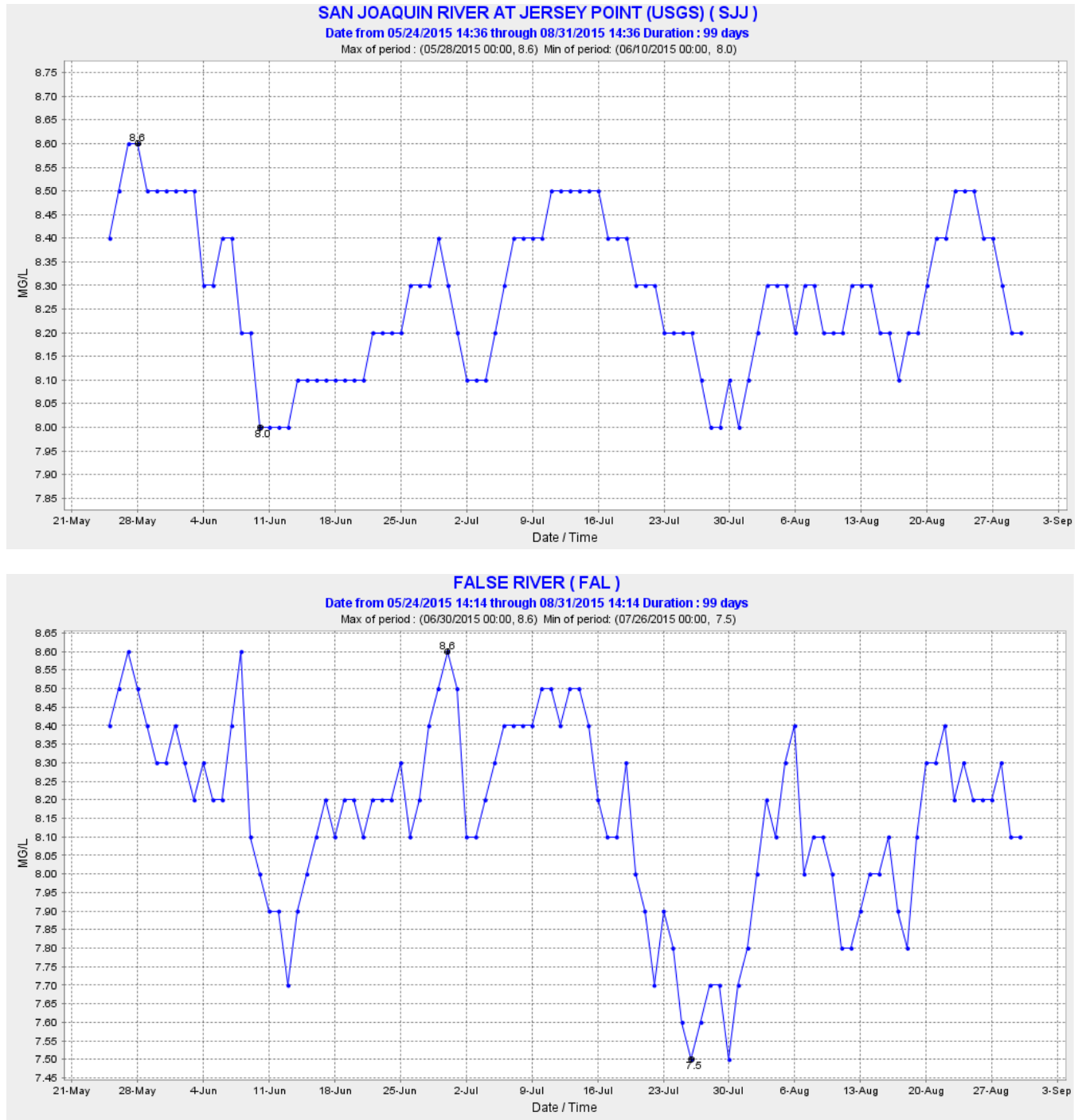
Daily average temperature for stations immediately upstream and downstream of the EDB:



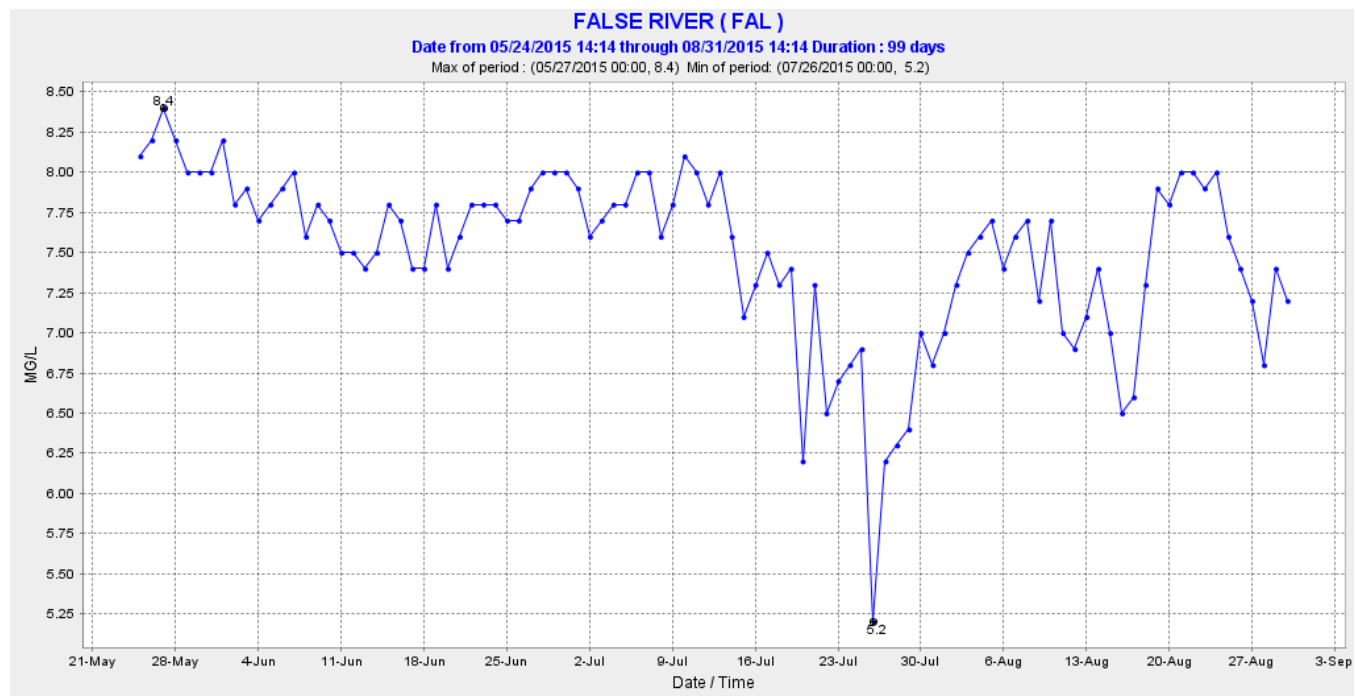
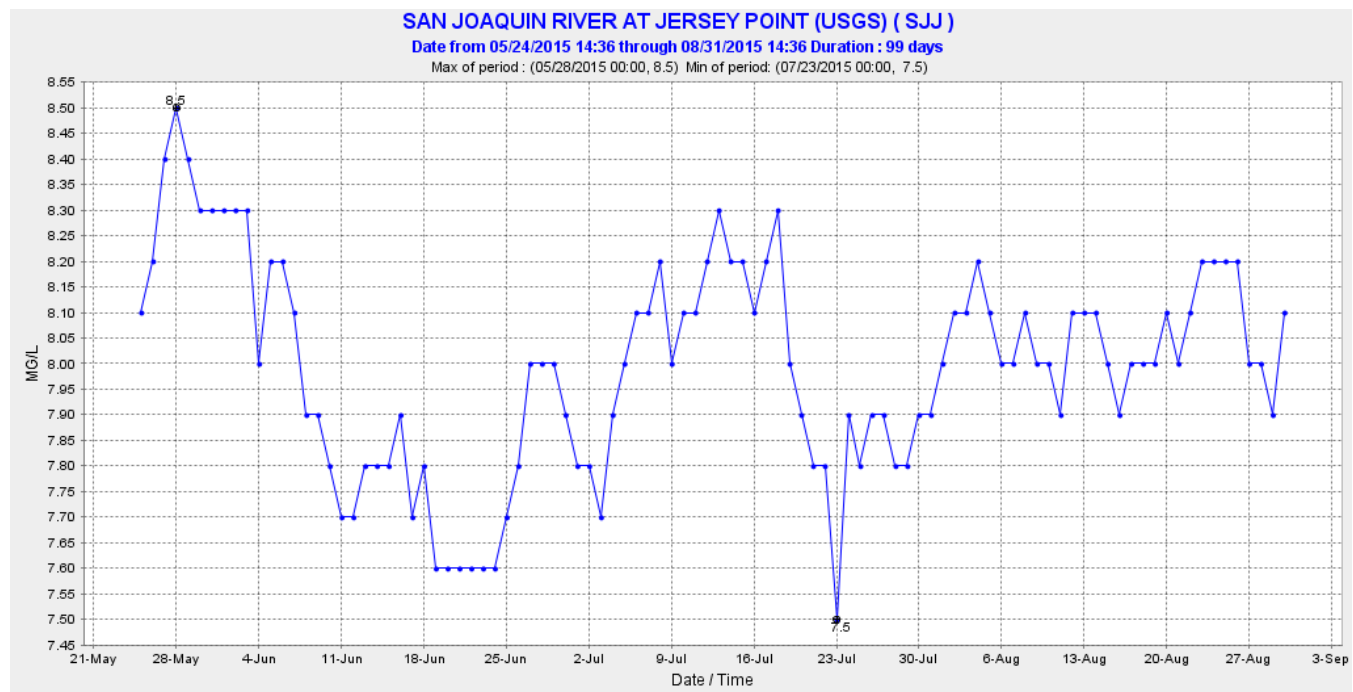
Dissolved Oxygen

Average daily dissolved oxygen (DO) decreased slightly during the week but remained over 8.0 mg/L at the FAL and SJJ stations. Minimum DO levels for the two stations decreased during the past week, but the decrease was greater at FAL. At both stations DO remained well above the 5.0 water quality criterion for aquatic life, as they have remained since the barrier was installed.

Daily average DO for stations immediately upstream and downstream of the EDB:



Daily minimum DO for stations immediately upriver and downriver of the EDB:



Summary of EC data ($\mu\text{S}/\text{cm}$) by station for the period of August 24 through August 30, 2015.

Station	Mean	Median	Minimum	Maximum	Area
Suisun Bay - Cutoff near Ryer (RYC)	17660	17845	13168	21760	Grizzly Bay to Lower Sac River
Grizzly Bay (GZL)	21393	21180	19153	23939	
Sacramento River near Sherman Island (SSI)	4879	4735.5	983	9595	Dutch Slough
Dutch Slough @ Jersey Island (DSJ)	1715	1670	1480	2190	
San Joaquin River @ Jersey Point (SJJ)	1715	1525	865	3510	Vicinity of EDB
Three Mile Slough at San Joaquin River (TSL)	1473	1420	830	2540	
San Joaquin River @ Twitchell Island (TWI)	1159	1123	614	2003	
Fisherman's Cut (FCT)	849	784	572	1355	
False River (FAL)	1107	1110	961	1250	Frank's Tract
Bethel Island near Piper Slough (BET)	960	955	941	1016	
Franks Tract Mid (FRK)	774	775	752	799	
Old River near Frank's Tract near Terminous (OSJ)	570	560	507	687	
Holland Cut near Bethel Island (HOL)	720	701	635	922	North Delta/Cache Slough
Sacramento River downstream of Isleton (SOI)	301	268	157	734	
Steamboat Slough near Sacramento River (SXS)	206	198	161	351	
Cache Slough @ Ryer Island (RYI)	201	196	187	251	
Liberty Island @ Approx Cntr S End (LIB)	208	208	193	239	
Miner Slough (MIR)	186	188	156	217	
Steamboat Slough downstream of Sutter Slough (SUS)	180	171	159	213	
Miner Slough @ HWY 84 Bridge (HWB)	181	175	150	224	

Mean specific conductance ($\mu\text{S}/\text{cm}$) for the period of August 24 through August 30, 2015.

